

## Kentucky Bluegrass Shade Cultivar Evaluation Trial

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This is the fourth full year of data from Kentucky bluegrass growing in natural shade conditions. This is a National Turfgrass Evaluation Program (NTEP) ancillary trial, and is being conducted at several research stations in the United States. It contains 89 seeded cultivars, including a number of new experimental cultivars. Iowa State University is home to both a sun and shade setting of this trial.

### Materials and Methods

Research was conducted at the Iowa State University Horticulture Research Station. The trial was planted September 15, 2017. Plots are 4 ft. by 5 ft. and all cultivars are replicated three times. Supplemental irrigation was provided during the growing season and 2 lbs. of nitrogen was applied per 1,000 ft.<sup>2</sup> over the course of the growing season with a 28-0-5 fertilizer. The mowing height is 3 inches. Significant shade is provided by the shade tree cultivar trial, which the turfgrass trial is planted under.

Digital images were taken monthly starting in April to November. Digital images were captured with the use of a light box to ensure a consistent lighting and digital camera. Images were scanned using Sigma Scan for percent green cover (1-100% cover) not presented here, color (1=light green color and 9=dark green color), not presented here, and turfgrass quality (1=poor, 9=excellent, and 6=acceptable quality).

### Results and Discussion

Significant differences existed between cultivars for percent green cover (data not shown), color (data not shown), and quality during the growing season.

The values listed under each month in Table 1 are the averages of the turfgrass quality. The last row states the Fisher's LSD (least significant difference), which is a statistical measurement of how widely the datum in each column must vary before these are considered to be different from one another.

Many of the cultivars continued to decline in percent green cover over the year due to the heavy shade competition. Cultivars that had high quality ratings also tended to have higher color ratings, but due to space restrictions, color and percent green cover data is not presented here.

### Acknowledgements

Appreciation is extended to the NTEP organization for funding to conduct this project, as well as to Jeff Iles for use of the ground under his shade tree trial. Also appreciation to Ethan DenBeste, Thomas Donelan, and Simon Midtbo for help with data collection.

**Table 1. Turfgrass quality ratings for the Kentucky bluegrass shade cultivar evaluation trial, 2021.**

Cultivar	Turfgrass Quality							
	April	May	June	July	Aug	Sept	Oct	Nov
A11-40	4.2	4.2	4.5	4.7	4.9	4.3	4.4	4.0
A13-1	5.7	5.2	5.1	5.6	5.4	5.1	4.7	5.3
A99-2897	4.6	5.1	5.0	6.0	5.6	5.0	4.6	5.6
LTP-11-41	4.6	4.3	4.4	5.1	4.5	4.7	4.4	4.7
Blue Knight	4.2	4.1	4.2	4.5	4.8	4.3	4.7	4.1
RAD 553	5.0	4.9	4.7	5.2	5.3	5.1	4.8	4.8
Selway	5.0	5.3	5.0	5.3	5.1	5.6	5.6	5.9
Babe	4.5	4.3	4.5	5.0	5.0	4.6	4.1	4.5
AKB3128	5.7	4.9	5.1	5.6	5.3	5.3	4.8	5.6
AKB3179	5.1	5.1	5.0	5.4	5.5	5.1	5.4	5.7
AKB3241	4.8	4.9	5.3	5.6	5.3	4.8	5.1	5.6
NK-1	4.5	4.9	4.9	5.8	5.3	4.9	4.5	5.2
KH3492	4.5	4.9	5.1	5.6	5.6	4.9	4.7	5.4
A12-7	5.9	5.7	5.8	6.4	6.4	6.1	6.0	6.2
After Midnight	5.0	5.4	5.8	6.1	5.8	5.6	5.5	6.1
J-1138	5.5	5.3	4.8	5.3	5.2	4.7	5.3	5.2
J-1319	4.1	4.9	5.2	5.7	5.5	4.9	4.8	5.3
J-2726	4.7	5.5	5.8	6.6	6.3	6.9	5.9	5.9
J-3510	4.4	5.0	4.8	5.3	4.9	4.6	4.5	5.0
BAR PP 71213	4.1	4.3	4.4	4.7	4.5	4.7	4.5	4.6
BAR PP 7309V	5.3	6.5	6.0	6.9	6.7	6.3	6.8	7.1
BAR PP 79366	4.2	4.9	4.9	5.2	5.0	4.4	5.1	4.7
Barvette HGT®	4.3	5.4	5.2	5.7	5.5	5.2	4.8	5.4
BAR PP 7K426	4.5	5.4	4.9	6.3	5.8	5.7	5.4	6.1
BAR PP 7236V	4.8	4.5	5.0	5.1	5.5	5.0	5.2	5.2
BAR PP 79494	5.2	5.1	5.1	5.4	5.5	5.6	5.0	5.4
BAR PP 110358	4.4	4.4	4.7	5.0	4.8	4.8	4.5	4.7
RAD-1776	5.1	5.7	5.7	6.0	5.1	4.9	5.3	5.3
NAI-A16-3	5.0	5.5	5.7	6.3	6.5	6.1	6.2	6.5
NAI-13-132	4.7	4.7	4.8	5.3	5.0	5.0	5.0	5.3
NAI-15-80	3.7	3.8	4.2	4.6	4.0	4.0	4.0	4.2
NAI-13-9	3.8	5.4	5.1	5.5	5.0	5.1	5.2	5.6
NAI-13-14	5.2	5.3	5.1	5.7	5.7	5.5	5.2	6.0
NAI-14-122	4.9	4.0	4.6	5.0	4.8	4.7	5.3	4.8
PST-K13-143	4.7	4.4	4.6	4.8	4.8	4.4	4.3	4.3
NAI-14-128	5.6	5.3	5.1	5.5	5.6	5.2	4.7	5.1
NAI-14-132	4.3	4.7	4.7	5.3	5.1	5.5	5.3	4.8
NAI-14-133	4.4	4.2	4.4	4.4	4.5	4.4	4.0	4.6
NAI-14-176	4.2	4.2	4.2	5.0	4.6	4.8	4.2	4.3
NAI-14-178	4.2	4.7	4.9	5.5	5.3	4.9	4.6	4.5
NAI-14-187	4.2	4.8	4.6	5.1	4.9	4.5	4.9	4.8
NAI-15-84	4.2	4.0	4.3	4.6	4.4	3.8	3.9	4.3
Pivot	5.1	5.1	4.9	5.6	5.7	5.0	5.1	5.2
Blue Devil	4.6	4.1	4.1	4.6	4.8	4.2	4.3	4.3
Skye	4.5	4.1	4.4	4.3	4.8	4.3	3.9	3.8
GO-22B23	5.2	5.3	5.3	5.5	5.4	5.3	5.3	5.5
GO-2628	5.9	5.8	5.6	6.4	6.6	6.5	6.3	6.2
GO-2425	4.2	4.9	4.8	5.1	5.1	4.6	4.8	4.9
DLFPS-340/3364	5.2	4.1	4.7	4.8	5.4	4.8	4.8	5.3
DLFPS-340/3446	4.9	5.5	5.4	6.3	6.1	6.2	5.5	5.8